

WHAT IS CLAIMED IS:

1. A jar, for use in a downhole toolstring comprising:

a hollow housing;

a jar mandrel;

a latch sub;

at least one latch key;

a cam surface;

a chamber;

a compression spring; and

an adjuster, wherein:

the hollow housing supports, moveably retained therein, the jar mandrel and the latch sub;

the jar mandrel and the latch sub are releasably securable together by means of the at least one latch key, each said latch key being moveable between a latching position, in which the latching sub and the jar mandrel are connected together and a release position permitting separation thereof;

the cam surface is engageable with each said latch key to move each said latch key from said latching position to said release position when the jar mandrel occupies a preselected position in the housing;

the compression spring is constrained within the chamber and acts between the latch sub and the hollow housing to bias the jar mandrel when connected to the latch sub away from the preselected position; and

the adjuster includes an adjuster mandrel that is rotatable relative to the hollow housing and has an external portion that is engageable from outside the hollow housing via a side thereof, and an adjuster portion that is threadedly connected to the jar mandrel such that rotation of the adjuster mandrel relative to the jar mandrel alters the length of the chamber and hence the degree of compression of the compression spring.

2. A jar according to Claim 1 wherein the jar mandrel includes an end protruding from the hollow housing; and

a wireline connector secured to the said end, outside the hollow housing.

3. A jar according to Claim 1 wherein the hollow housing includes rigidly secured thereto an anvil and the jar mandrel includes a hammer that is strikeable against the anvil under the influence of a stretched wireline following separation of the jar mandrel from the latch sub.

4. A jar according to Claim 1 wherein the adjuster mandrel includes at one end within the hollow housing a shank having a threaded end; wherein the compression spring defines a hollow, cylindrical shape such that the shank passes through a central bore thereof; and wherein the adjuster includes a nut that is secured to the adjuster mandrel and threadedly received on the said end of the shank.

5. A jar according to Claim 1 wherein the compression spring includes seriatim in mutual engagement with one another a first spring section, of a first spring rate; and a second spring section of a second spring rate.

6. A jar according to Claim 1 wherein the hollow housing includes formed therein an elongate, through-going aperture permitting viewing of the location of the adjuster relative to the housing.

7. A jar according to Claim 1 wherein the hollow housing includes formed therein an elongate, through-going aperture permitting viewing of the location of the adjuster relative to the housing, the housing having marked thereon adjacent the aperture one or more distance markings.

8. A jar according to Claim 1 wherein the external portion of the adjuster mandrel includes a collar that is moveable relative to the remainder of the adjuster mandrel and has a protuberance that is engageable with a shoulder defined in the hollow housing; and wherein the adjuster mandrel includes a threaded portion having threadedly engaged therewith a lock nut that on tightening engages the collar to force the protuberance into engagement with the shoulder and thereby prevent operation of the adjuster.

9. A jar according to Claim 1 wherein the latch sub includes a hollow interior having formed in a surface thereof two or more latch shoulders; and each said latch key has at least two latch surfaces, each said latch surface of a said latch key being engageable with a said shoulder of the adjacent latch sub, when the latch key occupies its latching position with the jar mandrel received in the hollow interior of the latch sub.

10. A jar according to Claim 1 wherein each said latch key includes one or more resiliently deformable biasers biasing each said latch key toward said latching position thereof.

11. A jar, for use in a downhole toolstring comprising:

a hollow housing;
a jar mandrel;
a latch sub;
at least one latch key;
a cam surface;
a chamber;
a compression spring; and
an adjuster, wherein:

the hollow housing supports, moveably retained therein, the jar mandrel and the latch sub;

the jar mandrel and the latch sub are releasably securable together by means of the at least one latch key, each said latch key being moveable between a latching position, in which the latching sub and the jar mandrel are connected together and a release position permitting separation thereof;

the cam surface is engageable with the at least one latch key to move said latch key from its latching position to the release position when the jar mandrel occupies a preselected position in the housing;

the compression spring is constrained within the chamber and acts between the latch sub and the hollow housing to bias the jar mandrel when connected to the latch sub away from the preselected position;

the adjuster includes an adjuster mandrel that is rotatable relative to the hollow housing and has an external portion that is engageable from

outside the hollow housing, wherein the latch sub includes a hollow interior having formed in a surface thereof two or more latch shoulders; and

each said latch key has at least two latch surfaces, each latch surface of a said latch key being engageable with a said shoulder of the latch sub, when the latch key occupies the latching position thereof with the jar mandrel received in the hollow interior of the latch sub.

12. A jar according to Claim 11 wherein each said latch key includes one or more resiliently deformable biasers biasing it towards its latching position.